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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/717,672 | 11/21/2003 | Alexandre Corjon | 245497US41X CONT | 9066 |

22850 7590 09/08/2005

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| EXAMINER |
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HOLZEN, STEPHEN A

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| ART UNIT | PAPER NUMBER |
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3644

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

ME

Office Action Summary

Application No.

10/717,672

Applicant(s)

CORJON ET AL.

Examiner

Stephen A. Holzen

Art Unit

3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 6/3/2005 & 3/8/2005*
- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 3-7, 12, 13, 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8-11, 14-20 and 23-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/8/2005</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's arguments filed 6/3/2005 have been fully considered but they are not persuasive. The applicant has argued that the examiner will not be seriously burdened by searching the various claimed and disclosed embodiments in the application. The applicant argues that the examiner can theoretically search all subclasses. The applicant is clearly not aware of the number of references in the subclasses. A search of every subclass is time prohibitive.

The applicant has not touched on the merits of the election requirement. Since the examiner has only done an election species, he need not provide justification for placing the species in separate subclasses. Therefor the applicant's arguments in this respect are moot. Applicant's arguments with respect to the electronic searching of application are off point, not touching on the merits of the election requirement and are therefor moot. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The examiner believes that claim 21 should have been withdrawn although the applicant did not specially state. Claim 21 is drawn to the extension element and not the jet fluid element. This claim has been withdrawn with the rest of the withdrawn claims.

Claims 1-30 are pending

Claims 3-7, 12, 13, 21 and 22 are withdrawn.

Claims 1-2, 8-11, 14-20, 23-30 have been examined

Response to Arguments

2. Applicant's arguments filed 3/8/2005 have been fully considered but they are not persuasive. Applicant has argued what the device does, and how it performs, however does not clearly point out the structural differences between the claims and the prior art.

3. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

4. Applicant has argued that Lessen does not teach a periodic perturbation. Again this is an apparatus claim, and the applicant has argued that the functional language differentiates the instant application from the prior art. Lesson is capable of fulfilling the functional language the applicant has claimed.

5. The applicant has argued that Lessen does not teach a "periodic perturbation" and instead teaches a "prescribed flow rate". The examiner would agree that Lessen does teach a continuous flow of fluid from the supply to the nozzle however; the examiner

asserts that this flow and nozzle is capable of being periodic. Lessen states that the momentum flux may be increased or decreased based on variable conditions, and that variable flow rates are required to accommodate the variable conditions and further that the means for supplying the injected fluid at a flow rate which is adequate for the range of the operating conditions (see Col 4, lines 21-34). The examiner asserts that these changing operating conditions are periodic in the sense that they are recurring and reappearing intermittently. Therefor the flow rates must be adjusted as such.

6. Applicant has argued that Crouch does not each "generating a periodic perturbation adjacent an area of creation of the first eddy, the periodic perturbation having a wavelength capable of exiting at least one internal instability made of the core of the first eddy. The phrase "capable" only limits the claimed method step of generation to the capability of performing that step. Crouch does not necessarily have to be exciting the internal instability mode of the core, but only have the capability to do so. Crouch's fluid jets have this capability.

7. Applicant has further argued that Crouch's disturbance in the spatial arrangement of the vortices is not related to the internal instability of the core of the eddies. The examiner asserts that the spatial arrangements would excite the internal instability mode of the eddy core, which would lead to the destruction of the vortex.

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8. The argument concerning "transversally to the direction of travel" is not persuasive since this limitation is not claimed. Applicant has only claimed "Transversally to a flow around the wing". It should be appreciated that these are different limitations with different scopes. The claim as written has a scope that is broader than that of applicant's arguments. Lessen reads on the claimed invention since there are instances when the flow of air around the wing will be transverse to the flow of fluid from the jet (i.e. during turbulence and wind gusts).

DETAILED ACTION

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 2, 8, 9, 18, 19, 20, 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Lessen (3,881,669). Lessen discloses an apparatus having a perturbation device (Figure 2), configured to generate a periodic perturbation having a wavelength capable of exciting at least one instability mode of the first eddy (see Figures 1 and 2, where device is capable as performing as claimed)

Re - Claim 2: wherein the device is adjacent a flap of the aircraft (see Figure 1)

Re - Claim 8: wherein the device comprises a fluid jet (#26 and #30)

Re - Claim 9: wherein the fluid jet is disposed in the wing (see Figure 3)

Re – Claim 18: wherein the periodic perturbation is capable of corresponding to a Bernard-von Karman instability.

Re – Claim 19: wherein the period perturbation is capable of inducing an increase in three-dimension elliptic instabilities.

Re – Claim 20: wherein the instability mode is capable of being an internal instability mode of a core of the first co-rotating eddy.

Re – Claim 23: as best understood, Lessen discloses a fluid jet capable of emitting a fluid that is transverse to the flow around the wing. (see #40)

11. Claims 10, 11, 14, 15, 24, 25, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Lessen (3,881,669). Lessen discloses a device having means for generating a periodic perturbation having a wavelength capable of exciting the instability mode of a first eddy, and is disposed adjacent the area of creation of the first co-rotating eddy (see Figure 1)

Re - Claim 11: wherein the device is adjacent a flap of an aircraft (see Figure 2)

Re - Claim 14: wherein the device comprises a fluid jet (#30)

Re - Claim 15: wherein the fluid jet is disposed within the wing (see Figure 3).

Re- Claim 24: wherein the perturbation is capable of corresponding to Bernard-von Karman instability.

Re – Claim 25: wherein the perturbation is capable of inducing an increase in three-dimensional elliptic instabilities.

Re – Claim 26: as best understood, Lessen discloses a fluid jet capable of emitting a fluid that is transverse to the flow around the wing.

12. Claims 16, 17, 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Lessen (3,881, 669). Lessen discloses in Figure 1 an apparatus for accelerating the destruction of vortices formed near the wings of an aircraft having a first perturbation device disposed adjacent an end of the first flap of the first wing, a second device adjacent to a second flap of the second wing, wherein the first and second devices are configured to generate periodic perturbations having wavelengths capable of exciting instability modes of the eddies. Lessen is capable of creating the claimed vortices characteristics, and where that proportion is approximately 30%.

Re – Claim 27: wherein the perturbation is capable of corresponding to Bernard-von Karman instability.

Re – Claim 28: wherein the perturbations are capable of inducing the core diameters of the eddies.

Re – claim 29: wherein the perturbations are capable of inducing increases in three-dimensional elliptic instabilities.

Re – Claim 30: wherein the instability mode to be excited is capable of being determine from the sizes of the cores of the eddies and ratios between the sizes of the cores of the eddies and a distance between the eddies.

Claim Rejections - 35 USC § 112

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 23 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A "fluid jet" is an apparatus element, and not a fluid. Therefor the "jet" cannot be emitted, but a stream of fluid emitted from the jet is. Applicant's claims do not clearly define their scope.

15. The term "corresponds" in claims 18, 24, 27 is a relative term which renders the claim indefinite. The term "corresponds" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. By how much does something need to be the same to where it corresponds? The phrase "corresponds" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen A. Holzen whose telephone number is 571-272-6903. The examiner can normally be reached on M-F 8:30-5:00.

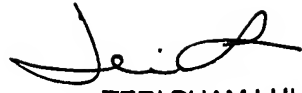
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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